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The Malaysian Cul-de-sac Neighbourhoods: Does It Foster Social Cohesion of Communities?

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Abstract

The national mass housing policies are currently being scrutinised on affordability and quality of life. The consideration of a better neighbourhood design is currently only evident in curvilinear and organic planning designs of neighbourhoods such as the cul-de-sac. The objective of this paper is to *identify concepts of the cul-de-sac neighbourhoods* and the *community's social cohesion* through a *critical review of available literature* within the framework settings of a *Malaysian pluralistic neighbourhood*. The paper is anticipated to lead to methodological assessment processes of the physical environment and neighbourhoods as well as expand existing contextual knowledge of the Malaysian cul-de-sac neighbourhoods.

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Keywords: Cul-de-sac; social cohesion; neighbourhoods; Tessellation Planning; quality of life; Malaysia.

1. Introduction

Literatures of Environment-Behaviour studies within the built environment of the Malaysian context have only recently begun to take an interest among social scientists and practitioners alike. This is especially critical as the nation aspires to be a developed nation by 2020. Learning from a wealth of

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published findings from developed nations is essential in establishing the country's own niche and perspectives, within its own pluralistic context. This is evident in the contextual setting of a cul-de-sac neighbourhood. Among recent literatures on the general studies of culs-de-sac and the built environment included works of Charmes (2010), Cozens (2008) and Williams (2008), while specific cul-de-sac studies includes Asabere (1990), Johnson & Bowers (2010), Mason (2010), Southworth and Ben-Joseph (1993) and Buer (1996).

There are also numerous peripheral studies to the cul-de-sac by Davison and Lawson (2006), Hipp (2010), Lovejoy, Handy & Mokhtarian (2010) and Veitch, Salmon & Ball (2010). There are, however, limited local contributors to the cul-de-sac discussions, but incorporates findings of Bajunid, Abbas & Nawawi (2011a, b), Ghazali & Bajunid (2011), Hashim (2005), Mohit, Ibrahim & Rashid (2010) and Othman (2010). For the purpose of this paper, literature factoring in the focus of social cohesion includes that of du Toit, Cerin, Leslie & Owen (2007), Hou et. al. (2010), Pearce & Maddison (2011) and (Veitch, et.al, 2011), which has been found applicable as the depth narrows to the cul-de-sac. However, there remains a large pool of studies in the aspect of general researches of neighbourhoods and social cohesion, which would be outlined later in the paper.

This paper seeks, *through an extensive literature search, to identify specific key concepts of the neighbourhood and social cohesion within the design layout settings of a Malaysian cul-de-sac*. The paper intends to initiate a discussion on the idealism of the cul-de-sac layout (*wherever possible*) and debates for a more socially effective mass housing planning method, in the Malaysian multicultural domain.

The paper shall be divided into three sections; the manner of which the search of literature was initiated and undertaken; key concepts pertaining to the discussion of the cul-de-sac neighbourhood and social cohesion; and finally, further deliberations for future directions.

2. Literature Sourcing

2.1. Databases and refinement

Comprehending the relationships of cul-de-sac neighbourhoods and its social cohesion transgresses into multiple disciplines through the sciences and the arts. This is obvious when a search is conducted within an open Google search domain which resulted in 650,000 hits (when this article was written). This paper narrows that range within the context of a cul-de-sac (15,900 hits) and Malaysia (3,870 hits), of which was found to be inappropriately unreliable sources and links. Academically, a scholarly literature search was conducted and meticulously detailed via Universiti Teknologi MARA (UiTM)'s comprehensive database and orderly process as outlined by Bajunid, Abbas & Nawawi (2011a). Open Access documents were also scoured via Google Scholar, both searches, dating through the databases entire collection.

The Boolean logic (Cohen, 2011) was undertaken systematically within the databases whilst alert processes were updated regularly. This approach has proven to be effective in thoroughly and rigorously scouring specific, continuously updated documents, within the capacity of a Malaysian University, as published by Bajunid, Abbas & Nawawi (2011a).

2.2. Extensiveness

With limited resources available to the Author, an *initiation of an adapted systematic review* (Humphrey, 2011; Margarey 2001) was undertaken to ascertain the extensiveness of the data sourcing within that capacity. The adaptation in this paper, *only highlights a preliminary synthesis of the sourcing*

narratively, identifying key concepts of 'social cohesion', in relation to an already established and continuously updated database of 'cul-de-sac and the neighbourhood'; with limited graphical displays. A flow diagram indicative of the review sourcing process is displayed in figure 1. The analysis was performed during a period of three months of July to September 2011. The volumes of data reflected are within that time interval as it is anticipated that more documents shall continue to be constantly uploaded and becomes available.

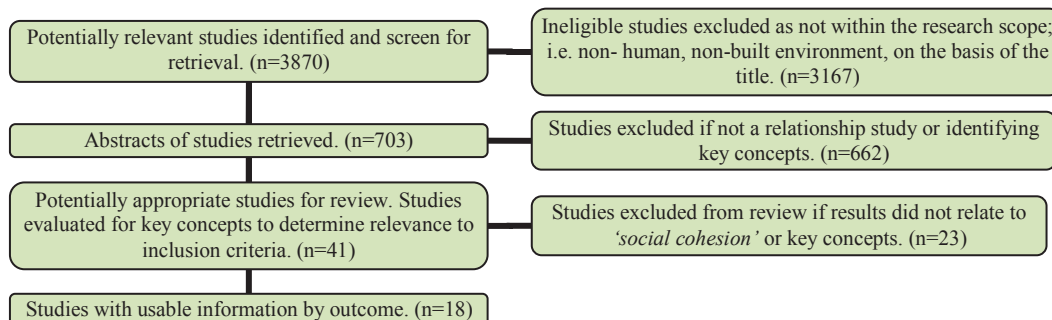


Fig.1. Illustration of the flow diagram screening process for relevancy before being reviewed for key concepts. Source: Adaptation from a QUOROM 1999 (Quality of Reporting of Meta-analyses) / CONSORT 2010 (Consolidated Standards of Reporting Trials) flowchart. (Moher, et al., 2010; Petticrew & Roberts, 2006; Schulz, Altman, & Moher, 2010).

3. Multi-disciplinary sourced literature

A summary of the variety in multi-disciplinary, sourced literature, could be identified and segmented into several domains. To best exhibit this diversity, is by equating the articles to its' originally printed journal. The following are the list of the articles' published origin; - the journal of (a) environment and behaviour; (b) (the international journal for) equity in health; (c) habitat international; (d) health and place; (e) landscape and urban planning; (f) population health metrics; (g) the real estate finance and economics; (h) science and business media; (i) social indicators research; (j) the social sciences and medicine; (k) the operational research society; (l) the society of behavioural medicine; and (m) urban studies. These domains are continuously updated and shall form the basis of discussion for this paper. It is, however, presumptuous to suggest connections between these domains without scientific reasoning. Thus, the stated parallels are only intended to illustrate the breadth of possible relationships that are still yet to be investigated.

4. Discussions

Within the scope of this paper, the diverse disciplines indicated some commonality of interest. These observations delineate key concepts of a broader discernment of associations between the *cul-de-sac neighbourhood* and *social cohesion of communities*. With limited findings within the realm of the Malaysian context, it can only be assumed, currently, that certain relationships and aspects remains the same across cultures, race and regional influences. The following outlines some of these key concepts.

4.1. About Social Cohesion in Context

The concept of social cohesion itself is difficult to neither measure nor define. In a study by Rajulton, Ravanera & Beaujot in 2007, addresses this complexity in a multilevel and multidimensional article,

starting only at the sub-country level, using available national surveys. What is noteworthy, is that the article highlighted both exploratory and confirmatory factors within the multidimensionality of social cohesion, which embodies economic, social and political domains. Sub-domains of inclusion, equality, legitimacy, participation, recognition and belonging consequentially, remain invalidated. At that broad level, it seems inconclusive and requires further refinement, as opposed to J.C. Buckner's pivotal works on the development of an instrument to measure neighbourhood cohesion in 1988. His works has echoed throughout the decades and with recent works by Fone, Farewell & Dunstan (2006) and La Grange (2011); establishes the *Neighbourhood Cohesion Scale Indexed* further in an econometric analysis; in the United Kingdom and a class of three neighbourhoods in Hong Kong, respectively. It seems clear with the most current research of La Grange (2011), that the Buckner's index is robust, having adapted between 14 to 16 items among many researchers since.

4.2. Social cohesion and neighbourhood physical appearance

In tandem, an established researcher, *Carlijn B.M. Kamphuis*, constructed an *environmental audit instrument* based on a number of other audit instruments, objectively identifying neighbourhood features and characteristics with respect to aesthetics, design, social un-safety, traffic un-safety and destination features. In his recent article, Kamphuis, et.al. (2010), suggest that "improvements in unfavourable neighbourhood perceptions, (among lower socioeconomic groups), are most likely to be achieved, if environmental change strategies would be combined with community interventions, to increase residents' involvement in social processes and improve their psychosocial circumstances". This resonates with McDonnell (2007) in his findings that the physical appearance of neighbourhoods had a forceful effect of perceptions of children's safety at home within a neighbourhood. His 41-items neighbourhood rating scale measures a neighbourhoods' physical appearance, public amenities, safety and social appearance. In a way, the two findings indicate a cross reference on the influence of the community in itself as the mediator to neighbourhood self-improvisation. This is even extended with Echeverria et.al. (2008), in the *Journal of Health and Place*, reporting that *neighbourhood problems* are "positively associated with depression, current smoking and alcohol drinking" and with individuals which were more likely not to walk or exercise.

4.3. Higher social cohesion

De Jesus, et.al. (2010), hypothesized in a study in Boston, Massachusetts that neighbours whom reported a positive higher level of social cohesion, perceived their neighbourhood *as safer* than those whom reported otherwise. This was the same case as with Baum, et.al. (2009), as their qualitative findings demonstrated an association between perceptions of cohesion and safety were positive as compared to the reverse, within the local area. This was also strengthened by their quantitative results, that neighbourhood social cohesion could make residents feel safer. This was reiterated in another health related study by Craddock, et.al. (2009), which substantiates that a neighbourhood with lower levels of social cohesion exhibits young individuals whom was not participating towards any general types of physical activity. This was intriguing to note as it is in parallel to the earlier study by Echeverria et.al. (2008).

It was also the contention of Dassapoulos and Monnat (2011), linking social cohesion and *collective efficacy* and 'enhanced neighbourhood satisfaction', whilst it was still possible that income levels significantly affects neighbourhood satisfaction. They asserted that residents who feel 'safe' in their neighbourhood have more than 4.5 times the odds of being in the higher category of *neighbourhood*

satisfaction. This finding, in conjunction with Cheung and Leung (2011), displayed a strong effect on *life satisfaction*, as well.

4.4. *Sense of community and social control*

Place attachment creates a higher sense of the community, especially in ecologically designed neighbourhoods of two communities in Texas, United States (Rogers & Sukolratanamettee, 2009). This research found that outdoor spaces such as parks and pedestrian walkways promote interaction, contact and a sense of identity for the community. This inevitably enhances the sense of community within a neighbourhood, and the same sense of cohesion among neighbours establishes a positive support system for youths, leading to effective social control and monitoring of children's activities within neighbourhoods (Abada, Hou & Ram, 2007).

4.5. *The Cul-de-sac and social cohesion*

It is reasonable to assume that, despite many western studies, sinuous forms of the cul-de-sac reduces the estimated probability of burglary more than living in a linear cul-de-sac (Johnson and Bowers, 2010). Permeable designs, especially those linked to a major road, increase chances of burglary by 8%, and if linked to three other roads, it increases by 26%. Linking to private roads reduces estimated burglaries by 8%. This is particularly pertinent as when the sense of safety increases, social cohesion intensifies (Baum, et.al., 2009; De Jesus, et.al., 2010). Teck-Hong (2011), within the Malaysian context, emphasized that residents whom resides in 'gated-guarded communities' are 1.27 times more likely to be satisfied with their housing situation, as most of these areas offer 'green-lungs', making potential house buyers willing to pay 18.1% more to live in such neighbourhoods. The hypothesis that the cul-de-sac would attract premium rates is supported by Asabere (1990). Within these culs-de-sac green lungs, a better social, interactive grounds for children are indirectly created (Othman, 2010), increasing their physical activity as well if compared to children whom did not live in cul-de-sac (Veitch, et.al, 2011).

5. Conclusion

Extrapolating from the key concepts of social cohesion and the cul-de-sac neighbourhood above, there lies within the vast breadth of literature, some coherency and 'domino-effect' on a multilevel and multidimensional domain. Especially when observing social cohesion, sense of community, safety, health and neighbourhood satisfaction criteria. However, within the capacity of the Malaysian context, adding further complexity to the existing equation, there exists varied possibilities of future research. It is this same multidisciplinary research potential that has been posited by Hashim (2005) and Ghazali & Bajunid (2011).

Within the same future research intention also lays possibilities of methodological applications, of both additional constructs and validation. The paper has at this juncture, highlighted possible *Neighbourhood Cohesion Scale Index* or an *Environmental Audit Instrument* intervention, within the setting of a Malaysian neighbourhood. Opportunities arise in assessing, adapting and modifying available instruments in a context of a different racial, ethnic and religious setting; giving rise to not only answering the fundamental question of this paper; but many other dimensions not even known at this instant. It is the sheer crux of this paper that the Author challenges researchers to investigate further, within a trans-disciplinary realm of understanding Malaysian cul-de-sac neighbourhoods.

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